

MAPPING OPPORTUNITIES IN DATA SCIENCE

A career guide for students and graduates from the
humanities and social sciences



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Introduction

The ability to understand, interpret and process data has become one of the most desired skills on the job market today and in the future. Moreover, what has become painstakingly clear is the necessity for diverse and nuanced perspectives to drive data usage.

That is why we, a group of scientists and professionals from across the EU, have come together to collaborate in this crucial project to guide you in your journey to gain footing in the field of data science. Our initiative to help women from the humanities and social sciences transition into data science encompasses training courses in five different languages as well as this guide to help you in starting a career in data science.

The aim of this guide is simple: we want to provide you with a useful map to getting started, point out helpful stops along the way, and show you a path to transitioning into data science from a humanities and social science background.

Don't be afraid and be bold. It is fantastic that you are considering a career in data science. If you stay consistent, throw yourself out there, and put in the work, at the end of this journey, you'll be part of the group of people that shape the use of data and therefore shape access, representation, ethical use, and values around presentation and representation of data.

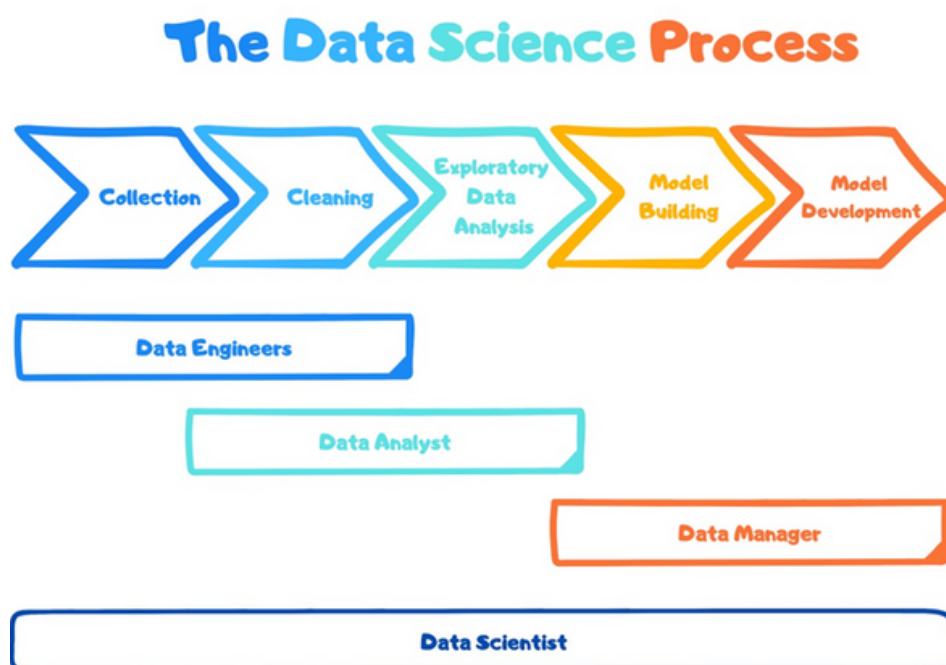
How to use this guide

The information in this guide was designed to show you that a career in data science is possible for you and moreover, how much the field benefits from you with your unique background.

We are not going to lie to you. Transitioning into a new field is not an easy task. From where you are standing right now it might feel quite overwhelming and out of reach to acquire the necessary know-how to pick up a career in data science. Here is a little secret to make it less scary. Think about something you've achieved in your life (e.g., passing a course that felt particularly challenging, graduating, mastering a new language). Now think back to the early stages of whatever it is that you achieved. Presumably your achievement did not happen overnight. No one expects you to become a data scientist overnight either.

Think of this guide as a companion to help you and give you ideas on your career path. Don't expect the guide to give you all the answers. Your own research skills, creativity, and personality are still your biggest asset. In other words, the guide isn't going to do the work for you. This guide simply provides you with a compact, yet high-level overview of what your journey can look like from here on out. We encourage you to read through the guide and pick one actionable item that feels doable and inspiring for you. Complete that one thing. Then pick another one. Before you know it, you will be an integral part of the data science community. Now imagine your future self looking back on this moment right now. She's looking back on step by step surrounding herself with relevant information and people, building a network and experience, and acquiring all the necessary skills to get to where she is right now – a professional and expert in her chosen area of data science.

Step 1: Dipping your toes into the field – What is Data Science?

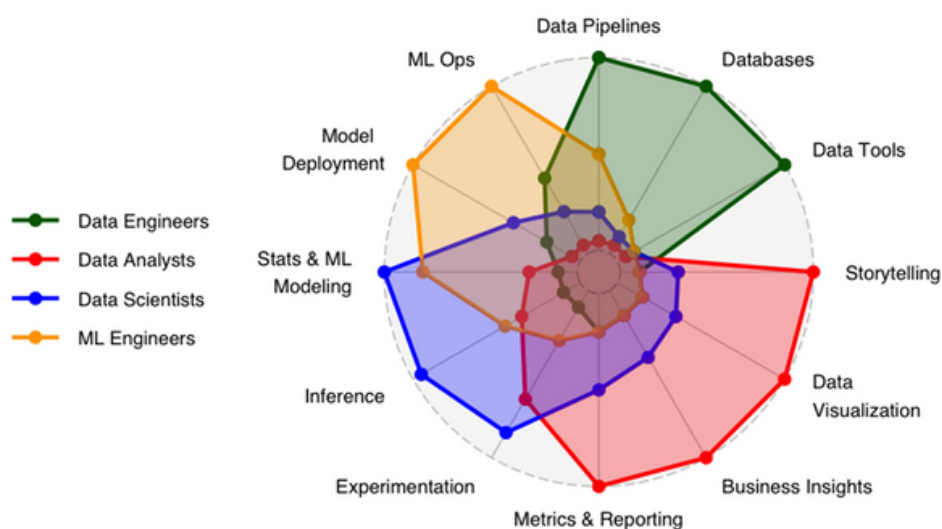


At this point of your journey, a crucial step is to dive into what you do not know yet. Familiarising yourself with the industry vocabulary will initially help guide your attention to information, platforms, and organisations that are right and relevant for you. We'll start by pointing out and demystifying a variety of the overwhelming amount of similar-sounding data science roles out there. Keep in mind that even though similar sounding, those roles require quite different sets of skills, may have vastly different salary ranges, and some roles are easier to transition into than others because they have requirements that you already fulfil with a background in the humanities and social sciences. To add to the complexity, data science roles can be active in a variety of contexts. Some data scientists may be mostly engaged with clients, while others work more closely on developing tools. This provides you with the opportunity to find positions that match your individual skills, personality, and desires. Finally, what a data science team looks like can vary based on the company's setup. For instance, small companies tend to have fewer specialised roles, which means that each team member will usually take on a wider area of responsibility. Our advice is not to get too hung up on particular terminologies. How companies use them in practice can vary greatly and at the end of the day you'll get hired for what you have to offer. However, there are some recurring positions that are useful to know a little bit about to get familiar with what kind of skills are applicable to solve data-related problems in the world and in the job market today. Let's illustrate this with an oversimplified example:

Many companies whose success depends on selling goods or services would like to understand their customers' behaviour, thinking, and decision-making patterns better. Traditional business models pretty much relied on strategies such as the growth-share matrix, focus groups, surveys, and customer profiles to get to that understanding. Now, with many businesses moving online, the scale and form of data available to infer information about customer patterns have changed and thus the traditional ways have been complemented with new ones.

That's where data science comes in. Most companies nowadays have a website to present their products. To start the project of building a website with the intention to capture data and infer learnings a product owner and/or a data scientist are involved. Data engineers and data architects may already be involved at this stage to make sure that data is captured from the website in the right format and set up the data storage, i.e., they are building the data infrastructure. Database administrators may work with this infrastructure to ensure data storage is maintained in the intended way. From there a data analyst may come in to set up a framework for analysing (e.g., understanding patterns, forecasting, and so on) the data that is collected. Machine learning (ML) scientists bring another layer by designing models to analyse the data or show potential for processes to be automated. ML engineers pick up on this information and build the models or implement automation. A key connection point between working with the data and coming to meaningful business decisions is filled by data storytellers. They visualise insights and help find meaning in the results. Not to forget, data ethicists and data lawyers may be included to make sure the built processes and data models comply with the law and consider impact and implications for humans and the planet. All these tasks essentially are managed by data scientists who maintain the overview and focus through each stage. You may wonder why is this an oversimplified example. In practice involving each of these experts in building only one product, here the company's website, is costly and potentially inefficient depending on what the company's core business is.

Pro Tip: Search the web for open positions for the roles mentioned here. This will give you further insights into what skills companies are looking for in the different roles as well as what they are offering. For more detailed information on how to acquire individual skills to build your skillset toolbox take a look at Step 3.



Source: <https://www.datacaptains.com/blog/guide-to-data-roles>

To give you a rough idea of how different skill sets interrelate, take a look at the visualisation created by Data Captains. As you can see, each role builds on some basic skills for each task, and then specialises in a distinct set of skills. If you were to start out as a data analyst, but want to become a data engineer, make sure to expand your knowledge about data pipelines, databases and data tools, and apply them in practice. When an opportunity arises, you can then move toward the role of data engineer where your skills and experience as a data analyst will bring extensive added value. Because of these overlaps and interrelations, the designation of positions is not an exact science. In each company, the position will be slightly different. Don't be scared off by a description that is too narrow or has too many requirements. Every company is different and may need exactly you on their team to be successful in the future.

Which role is suitable for you very much depends on your personal situation, interests, and priorities. Right now, you are focused on changing and developing. Here is a gentle reminder to also focus on the skills, knowledge, and experience you have already obtained. There are roles out there that are a perfect match for what you have to offer right now. While building an additional new skillset you can already

gain work experience in a role that is a fit now and negotiate resources with the company to support your transition. Remember, Step 1 is all about gaining industry awareness as well as beginning to narrow down your individual path. To repeat one more time; don't get hung up on particular role names. Focus on the skills you have already acquired and the ones that you still want to build on. Look at how you can apply your current and future skills in a manner that is useful to you right now and helps you grow – for instance, think of one data science project you can implement in your current field with your current skills, and then do it. You will see that not only did you find a way to apply data science, but you also learned a lot in the process.

Step 2: Getting a foot in the door – How to build your network

Now that you have a clearer idea about the possibilities within data science you surely must be wondering how you will be able to get a foot in the door. According to the Oxford Dictionary, a network is (1) “an arrangement of intersecting horizontal and vertical lines” or (2) “a closely connected group of people, companies, etc. that exchange information, etc.”. In the context of this career guide a network is an arrangement of information and people which will support you in becoming a data science enthusiast. The basic idea is to surround yourself with whoever and whatever helps you to get a little deeper into the topic.

A crucial step for you to build your network is to place yourself somewhere that allows you to connect with the information and people in the field of data science. Initially, this can look like subscribing to relevant newsletters, following pages, organisations and people on LinkedIn or other platforms. Through those initial touchpoints and searches, you will find that events and meetups both on- and offline will pop up on your radar. Use the information below to get started, get inspired and dig deeper. You know best whether you prefer to read or watch videos, or if podcasts fit into your day best. Try to immerse yourself: pick what makes sense to you first and then move on to more challenging topics at your own pace.

Reading

Newsletters help you to stay updated with industry insights and trends and subscribing to reputable sources like [DataCamp](#) and [Data Elixir](#) helps you keep abreast of all the data science buzz. [Towards Data Science](#) offers a range of data science content and can work as a guide to the field from your very first encounters to when you have become a seasoned professional.

Books can also be valuable companions for your data science journey. One of our top picks includes the handbook published by members of the Vienna Data Science Group, [The Handbook of Data Science and AI: Generate Value from Data with Machine Learning and Data Analytics](#).

Watching

On YouTube, there are quite a few channels which can support you to develop particular skills: you might find the [CS50 Lectures 2020](#), [Tech With Tim](#), [Network Chuck](#) or [freeCodeCamp.org](#) useful to expand your programming expertise.

Listening

You might be surprised to learn that there are hundreds, if not thousands, of podcasts on data science out there. One quick search and you will arrive at the latest compilation by Coursera or other sources. Here are a few starting pointers for you: [Data Skeptic](#) is not only a long-running podcast covering many things data, but also has a set of [mini-episodes](#) that focus on techniques used in data science. [Not So Standard Deviations](#) explores current talking points in the field of data science and will help you discover the field.

People

If you're on LinkedIn, you might want to check out [Alex Wang](#) or [Andrew Ng](#), who regularly share content related to learning data science. Once you start looking, you will surely find people around you who inspire you: make sure to reach out to them and ask for a meeting or advice.

But more important than individual people are the communities you can find. Make sure you sign up to become a member of a relevant organisation: whether local, regional or global, these networks unite people interested in the same topics and help you find your way into the field. They offer a nurturing environment where you will have plentiful opportunities to get involved in projects, collaborate with people you admire, contribute with the skills you have now and develop the skills you want to acquire. Check out Meetup, where you will likely find a lot of data science events and communities nearby.

To get started, you will probably find local branches of our favourite picks somewhere near you. Women in Data Science (WiDS) has a worldwide network of dedicated data science experts who organise at least one conference and datathon every year – and probably also a regional conference somewhere around you. Organisations like Women in AI (WAI) and Women in Machine Learning (WiML) are here to help you connect with like-minded people, attend events, and access valuable resources. Even communities around particular programming languages exist, such as PyLadies, a community that supports women in Python programming, or RLadies, a network that emerged around the programming language R. Head to an event, see whether you like the feel of the community, and chat with people to see which communities appeal the most to you.

Companies

While you have been looking up open positions you've come across a variety of companies. One starting point to create yourself a network is to look at the people who work for the companies that interest you, specifically people who already execute the types of roles you are interested in. Head to career fairs in your area to see which companies might be interesting for you and to get an idea of where your expertise currently fits in best. Another option is to explore the community events, job platform, and newsletter offered by WeAreDevelopers. While building and engaging with your network remember to keep an eye out for which companies are associated with or sponsoring the communities, events, and organisations you come across. These companies are likely to be open to be approached by career transitioners.

Use your university

As an active or former student, your first place to go should be the university's career centre. The centre will give you access to any local resources you can draw on, point you to relevant events, or even help you find an internship with a company. In addition, make sure you talk to university staff to understand your options and how they can help you – often, they will know which courses might be interesting for you and connect you with people in the field. Crucial here is that you don't just talk to staff from your own department but also look at the departments offering data science related courses. Make sure to also ask about conferences and summer schools, both locally and abroad: often, you can attend them at a reduced or no cost if you apply through your university.

Networks change to continue to support you

Once you have started building a network, you'll quickly realise how much more there is yet to be discovered. Over time, you will drop some of those early resources as you expand your knowledge and preferences in the field and begin to be gravitate towards particular topics. This is a good thing – networks always change over time. The key with networks is that they should support you. Use your immersion into the field to test which areas you are interested in, and whether you are still comfortable with the direction you are heading in or would rather prefer to try something new. You are also more likely to hear about open positions, good places to work at, internship opportunities, and general changes in the field if you have people in data science around you.

After a while, you might also feel keen to put yourself out there. In that case, sign up to host talks or join a panel discussion. The in-depth preparation you'll conduct for such events will intensify your growth. Becoming visible as an expert is both a challenge and a motivation to get even deeper into a topic you find interesting.

Pro Tip: The time you spend sourcing and engaging with your network is also time you spend familiarising yourself with who the players are in the field. Pay attention to what companies, organisations and recruiters are emerging and keep your eyes open for opportunities to catch.

To summarise, put yourself out there, reach out to and connect with people. Surrounding yourself with support will make your transition a lot easier and a lot more fun. Besides, the field of data science is constantly evolving and changing, it is a team effort to keep track of everything that's going on. Don't hesitate: Hit subscribe to that newsletter that reminds you on a regular basis that the field is still out there. Text that data scientist you saw posting on LinkedIn. Start being part of the data science community today.

Step 3 Time to get your hands dirty – Filling your data science toolbox

Reading newsletters and talking to people will help you carve out your data science path and discern where your interests lie within the field. However, there is no way around putting yourself to work in order to add additional skills to your portfolio. Actually “doing data science” will make the difference between watching from the sidelines and understanding the information around you from your own hands-on experience.

As we covered in Step 1, the tasks, responsibilities, and skills associated with a data science role in any given company vary depending on the company's activities, the composition of the team, the company's resources, and needs. You are likely to already have important expertise in some of the required areas, for instance in project management or communication, and you also have expert knowledge in your field e.g, the humanities or social sciences. This experience will be helpful to get into an entry-level position. Try to supplement these existing skills with basic technical skills first, which you can then develop and grow over time. We've compiled a rough summary to provide you with a starting point for what a skill set might look like.

Role	Skills and tools you will need
Data scientist	Python, R, SQL, SAS, Tableau, Microsoft PowerBI, Microsoft Excel, Hadoop, Apache Spark, data ethics
Data analyst	SQL, Microsoft Excel, Python, R, Tableau, Jupyter Notebooks, data ethics
Data engineer	SQL, Python, HTTP/API Response Codes, relational databases, Hadoop, Apache Spark, Java, Scala
Data architect	Microsoft Azure, relational databases, Python, SQL
Database administrator	SQL, PostgreSQL, Oracle, database design, performance optimization, Backup and Recovery, database maintenance, data integrity, basic knowledge of NoSQL-databases
Data administrator	SQL, Hadoop, Oracle, analytical thinking, storage methods, security awareness, data manipulation, basic knowledge of programming skills (Java, C etc.)
ML scientist	Statistics, mathematics, NLP, computer vision, robotics, data ethics, research skills, Python, R, familiarity with libraries and frameworks like TensorFlow, PyTorch
ML engineer	Python, R, SQL, Java, C++, familiarity with libraries and frameworks like TensorFlow, PyTorch, Pandas, NumPy, GitHub, Docker, Kubernetes, deployment knowledge
Data storyteller	Analytical skills, creativity, problem solving, curiosity, data ethics
Product owner	Information about business needs, knowledge of processes, team skills, communication skills, resilience, moderator skills, data ethics

Remember to start with one thing and trust that over time you will have compiled your own range of technical know-how. The good news is there is pretty much an infinite number of resources available to help you get started.

Pro Tip: It is always an option to seek out a role that compliments your previous experience or take a more junior role while you are still developing your data science toolbox. The important part is to look out for a company and manager who are willing to support your endeavours to advance your skills.

Getting into the basics

Mimo and Kaggle, for instance, are easy and low-threshold platforms that can help you take your first steps in programming languages. Codewars can help you put into practice what you are learning. The platform offers short programming tasks that you can solve at your own pace at various difficulty levels. Additionally, you can also learn from the solutions submitted by others for the same problem. In general, also aim to build your basics in mathematics and statistics – Khan Academy is a good place to start with the foundation and basic concepts in those areas. To build strong foundational knowledge of AI, consider the comprehensive introduction offered by Elements of AI. The key is to keep challenging yourself, as this will become increasingly important because the more you learn, the more you will need to consolidate your skills by putting them into practice and learning how to apply them to real-life scenarios or use cases. Once you get a feel for coding, try participating in hackathons or data visualisation contests. The experience of thinking and working together with others will help you see additional perspectives while also giving you an opportunity to test your skills. Ideally, you will find ways to apply data science to solve issues in your current field. Besides giving you an endless stream of possible projects, connecting the dots in this way will help you to better situate your journey into data science.

The most important advice we can give you is to make daily practice a habit. What you learn is only worth something if you can apply it and demonstrate what you can do. Also, make sure to save all projects you complete on GitHub to start building a project database which you can use later to demonstrate your skills.

Courses and Certificates

In addition to these resources, online courses cover both basic knowledge and skills and more advanced training to help you better understand data science. Popular platforms include e.g., Coursera, EdX, Udemy, FreeCodeCamp or DataCamp, as well as LinkedIn Learning. Whatever you choose, do not expect to know everything after one course. You are more likely to attend five, six, or even ten courses. This is normal because you are learning a new subject matter and you may need to hear a few different explanations before things begin to fall into place.

And of course different courses transfer knowledge of different areas (e.g., critical thinking, data analysis, project management, and so on).

Once you have become comfortable with basic skills, look out for certifications. They will be invaluable signals to recruiters later in your journey. Certificates are valuable because they allow you to verify your interest in a topic or area, even if your degree is in a different field. Depending on the role you are aiming for, you may want to consider getting specialised certifications. For database administrators, a certification like the Microsoft Certified Database Administrator will make sense, but this may not be the first option if you want to become an ML scientist. On the other hand, some certifications are considered to be useful for a broad range of data science roles. Requirements engineering, for example, provides you with techniques to systematically understand the needs of stakeholders regarding the product that you are developing.

Other offers may be more extensive but may also consume more time and money. If you can, try to take a few university courses or even start a new degree: this will give you a structured, very in-depth introduction into the subject you've chosen, but is also likely to be very challenging. Don't let that put you off: everything that is new will always be a little tougher than what you are already familiar with. Another option for you could be to attend a summer school specialising in data science. You will focus on data science topics in addition to the opportunity to exchange with your peers and learn from their experiences. You may also want to consider data science boot camps, as they are a great way to immerse yourself and acquire a variety of skills in a short amount of time.

Pro Tip: Not all of the resources out there are for free. Don't be shy to ask around your university, your network or the internet for funding opportunities. You'll likely be positively surprised how much support there is for you to acquire additional skills. At the same time be careful with resources that sound too good to be true, i.e., are too expensive and offer a job after participation.

Last but certainly not least, consider learning on the job through an internship, traineeship or as a working student if this option is available to you. Even if you have already gained experience in a different field, working at a junior level will allow you to build a strong foundation in data science on top of which your additional skills will stand out.

Use your network and your research skills to find courses that interest you, transfer skills that are in demand, and are considered reputable in your new surroundings.

Pro Tip: When learning something new it is easy to get lost in everything that you don't know yet. However, don't sell yourself and your own experience short. Go through your degree curriculum and think about how the various courses you took translate into practical knowledge and skills that are useful when working with data and people.

Step 4 Go and get that job – What to pay attention to when applying?

When you're starting to feel like it has been a while since you had to frantically look up keywords at an event to keep up, or you now take a quick glance at a newsletter and know exactly what will help you with your current project, be proud for a moment. You've come a long way, and it is high time to bring your hard-earned expertise into a professional setting.

Getting through the application process will be another milestone you can soon add to your transitioning journey. There is an abundance of resources and advice out there. Here you'll find a few key highlights on what to keep in mind when putting together your application and preparing for your interviews. However, don't limit yourself to the information given here: usually, universities have career centres which offer application workshops.

Finding companies and positions that are suitable for you

There are various ways for you to approach finding the right job:

- Look for a company you really want to work for. Think about how you can be of value to that company. What kind of project could that company be interested in? How would you approach that?
- Seek out recruiters who are specialised in the field/types of jobs you are interested in.
- Attend job fairs and talk to potential employers. Get a feeling for what they want to see in an application/candidate.
- Keep an eye out for data science positions related to your background – for instance in education, journalism, or the cultural sector – and seek out career fairs that specialise in these sectors.
- Look at which companies are associated with or sponsoring the communities, events and organisations you came across when building your network.

Practising your application skills

Just like with building your job skills, the best way to develop your application skills is by doing. Put yourself out there. Apply for jobs even if you only meet one of the requirements. Practice making a case for yourself and get comfortable with what you bring to the table. The right match for you will recognise your qualities.

Every application is an eternal work in progress until you get the job. You will likely not be able to see the commonalities between your first attempt and your 10th rewrite. The key here is to be inspired by the information that is already out there, for example, by looking through LinkedIn profiles for words and phrasing. Ask someone in your newly built network to take a look at your application draft. Try to get your hands on application material from your network. Don't copy/plagiarise but be inspired.

Questions to ask yourself and answer throughout the application process

While you are looking for open positions and throughout your application process, make sure to take some time and reflect on a few questions about your motivation and approach to data science. These questions will help you build a narrative about your transition into data science:

- Why are you changing fields?
- Why are you interested in data science?
- How do you connect your knowledge and experience with data science and the position you apply for?
- Where do you come across data?
- How do you deal with data from a data science perspective?

What to expect from interviewing

Whether you're transitioning into a new role at the same organisation, seeking an internship or a traineeship, or responding to an open data science position at a new organisation, you will most likely get to talk to someone along the way. This experience may seem a little intimidating at first, but keep in mind that you are not the first one to get into data science from a different field – others have made it there just like you will!

Other popular interview questions aim to understand how you deal with feedback and conflict, or how you like to work in a team. A variety of compilations of interview questions exist online which can help you prepare for technical questions. When you have the technical interview, just try to do what you think is right and do as much as you can. The company will be more interested in seeing how you think and how you would approach a problem than whether your answers are perfectly by the book – so don't expect an exam.

Above all, be prepared to present a project idea to show how the aspects of your project and the skills you demonstrate in your project are relevant to the company. Look through your previous projects – this includes capstone projects and final

assignments – and select one or two which you think relate best to the company, then write down a few aspects you would like to address. This will help you feel prepared for the interview and explain how you can bring value to the company.

Questions to ask your future employer

The job interview is also your opportunity to ensure your future job is what you expect from it and more importantly, whether your future employer can support you in your continued development. Moreover, you are expected to ask questions because you do not want to come across as being unprepared or not having thought about the company at all. It's the company's turn to answer what kind of projects are currently relevant and specifically highlight one, where they could see you working at and why and what they expect from you. Who is involved in the project?

What is the company's take on employee development? You know that you will continue to put time and effort into developing yourself in your spare time. But is the company also willing to allocate work time and financial resources for you to learn and grow? A concrete example could be a hypothetical 10-day course you are interested in. Would you be able to take the time for it during your working hours, would the company contribute financially?

Ask about your immediate work environment. Who will you work together with, will you have the opportunity to learn from more senior colleagues?

What programmes does the company work with on a daily basis? How flexible is the company to let you choose your own programmes?

These questions are specifically aiming at you finding out more about how the company works in regard to data science related jobs. The internet, university career platforms etc. Are full of additional inspiration on what other questions might be relevant to you.

Step 5 You've got the job! – What to expect from the trial period and beyond

The starting date of your new job is now set. You've worked hard for this. Take a moment to enjoy the accomplishment. Remember where you have started out and how far you have already come.

Starting out at a new job, especially in a new field, can come with its own question marks, so we thought we wouldn't leave you hanging here.

Let's start by taking the edge off your upcoming first day. It is highly unlikely that you'll be asked to jump into your first project or work assignment on the very first day. Usually, the first day is to meet your team, to receive your equipment, to familiarise yourself with the office, and to talk about what your onboarding looks like. You will probably also meet someone from HR and get an introduction to the company and department culture. By the end of your first day, you should have a pretty good idea of what your second day will be like.

Your first few weeks, up to several months, at the company will be coined as your trial period. Make sure you clarify the exact period during your interview phase and at least before signing the contract. More importantly, it should be clear to you what the company's expectations are for you.

As the term 'trial period' indicates, this time is an opportunity for you to try out your new workspace. Ideally, as someone transitioning into a new field, you have senior colleagues who are familiar with your tasks and can support and guide you. In any case, whether there are colleagues who know the ins and outs of your position or not, get used to asking questions. It is part of data science to make sense of data by asking questions about data and data-driven processes. Since you are the new person on the job, it is expected that you won't know everything yet, especially when it comes to company-specific ways of doing things. Another way to make sure you make the most of your trial period is to engage with both people directly on your team, as well as people from other functions and departments. You can ask your supervisor and your direct colleagues who might be interesting for you to sit down with or even shadow for some time. This can be your starting point to (1) better

understand your role within the wider context of the company and (2) build your network within the company. As we've covered in Step 1, data science positions are not independent of each other and the better you understand what the company needs the better you can execute your tasks.

Onboarding Checklist

- Make sure it is clear to you what is expected of you throughout your onboarding/trial period.
- Look for and ask for existing onboarding material. Anything from a company handbook to guidelines for your department.
- If it isn't organised already, take the initiative to meet people within and beyond your department. Ask around about who might be relevant or interesting for you to meet.
- If something isn't clear to you or does not make sense to you bring it up and ask questions. The trial period is your opportunity to try out whether the job and company are a fit for you.

You've come a long way. So, this is the moment we remind you that you are in this for the long haul. You are still relatively new to this field which means especially in the beginning, you will have to continue to work hard. Your colleagues with formal education in data science will have a broader foundation than you have at the start. If you notice that you have difficulty following, take this as an opportunity to build the basics in whatever you just discovered you don't know yet. It is very important that you are aware of your own limitations and that you are able to communicate them. Remember, the company and your colleagues are here to support you. If you are unsure of how to proceed, or if there are persistent issues with your project, make sure to reach out and learn from their experience. In turn, what you have that your colleagues may not have is the drive and determination to take everything you have learned in another field and supplement it with data science skills.

Use your knowledge and skills to raise questions and topics that none of your colleagues may have thought of before. Your learning and development curve continues and since you've made it this far, you are probably excited to continue to learn and grow.

Methodology

This guide was compiled by drawing on the collective experience of women working in the field of data science, with the aim of helping you transition into this field which desperately needs more people like you.

Women in AI Austria hosted a workshop with Accenture, REWE and Takeda in March 2023, followed by an interview with EBCONT, to gain the perspective of companies that have experience with people transitioning into the field. We are grateful for the insights these companies shared with us.

Next, we reached out to women who had recently transitioned into data science roles. We drew on their experiences with job interviews and added their favourite resources, networks and initiatives in order to provide you with insight into what working in the field could be like. We thank all of them for sharing their time and expertise to help us develop the guide.

To broaden our view, a survey was distributed by the consortium partners to companies and organisations in their countries. We asked what kind of initiatives and support structures exist in these countries and how universities support their students in the transition into data science. We appreciate the responses received by IDP, IT Solutions for All, AYeconomics, and others who preferred to remain anonymous.

Finally, we sought out resources to help us understand which roles you are likely to encounter and tried to contextualise the pathways you might take in data science. We hope this will help you identify the areas in which you want to improve your skills in order to move into the role you seek.

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